

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000487**Date Inspected:** 04-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 2330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Lu Jian Ping & Huang Li**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Caltrans Mock-Up**Summary of Items Observed:**

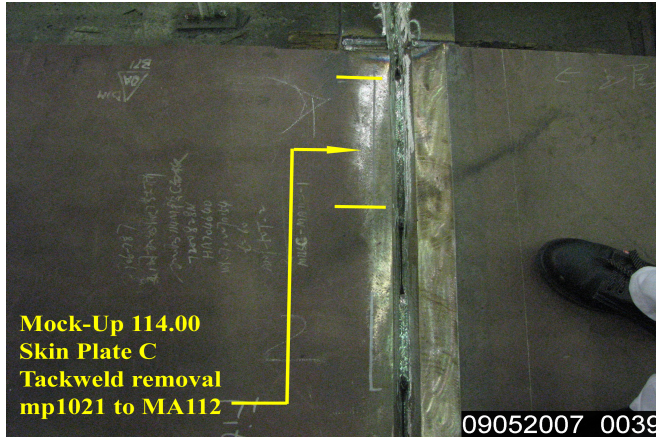
Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fitup, welding and related activities associated with the fabricating of Caltrans Mock-up, 77.00 and 114.00, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Item	Description	WBS	Dwg No.	Status
1	Skin Plate E	NA	NA	Work In Progress
	Mock-Up 77M, Skin Plate E: Caltrans QA Inspector observed air carbon arc backgouging and material preparation. The location is identified as stiffener plate, mp6-1 to MA1 skin plate; weld number MUSA-MA1-5B. At the completion of the backgouge weld joint preparation, the backgouged area was inspected for compliance by Bureau Veritas inspector Mr. Huang Li and found to be in compliance. The backgouge surface appeared to be smooth, ground to bright metal and in compliance with the contract specification..			
2	Skin Plate C (top)	NA	NA	Work In Progress
	Mock-Up 114.00, Skin Plate C: Caltrans QA Inspector observed submerged arc welding (SAW) in progress at skin plate mp1019 to MA112, weld number MUSC-MA-112-2 and mp1021 to MA112, and weld number MUSC-MA-112-4. The welder operator is observed welding a partial joint penetration (PJP) root pass weld in the flat position. Welder is identified as Mr. Han Chang Hou. The welder is using welding procedure specification WPS-B-T-2321-B-P3-S-1, Revision 1. Caltrans QA Inspector measured current welding parameters at approximately 510 amps, 31 volts and travel speed, 430 millimeters per minute (mm/min). Preheat and interpass temperatures were verified during welding activities. Preheat temperature prior to the start of welding measures more than 110 degrees Celsius (230 degree Fahrenheit) but less than 232 degrees Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. SAW consumables were verified and identified as JW-3, classification EM12K,			

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diameter 4.8 mm (.189 inches) electrode and, JF-B Flux, classification F7A2. Before welding the root weld pass at piecemark mp1021 to MA112 ZPMC observed a crack tackweld during the magnetic particle testing of the tackwelds. ZPMC elected to remove the tackweld by grinding and weld as is. Caltrans witnessed the removal of the tackweld and magnetic particle testing of the weld removal area and, no relevant indications were observed. Following digital pictures illustrate cracked tackweld location and ZPMC magnetic particle test.



3 Skin Plate C (top) NA NA ZPMC MT testing

Caltrans QA Inspector witnessed ZPMC QC nondestructive testing (NDT) technician, Mr. Zhou Dong Yun perform magnetic particle test (MT) and Visual Test (VT), at Mock-up 114M, Skin Plate C. The testing was performed at the plate splice welds, mp1019 to MA112, weld number MUSC-MA112-4, mp1021 to MA112, weld number MUSC-MA112-2 root pass weld, inside side, one-hundred percent VT and MT coverage. ZPMC QC, nondestructive technician, Mr. Zhou Dong Yun observed scattered porosity in both welds. ZPMC elected to do some investigative grinding on the root pass weld. The scattered porosity was evaluated in accordance with, AWS D1.5-2002, section 6, paragraph 6.26.2.3 and found to be in compliance with the code acceptance criteria. Following digital picture illustrates MT in progress.



4 Skin Plate C (top) NA NA Caltrans QA MT Test

The Caltrans QA Inspector performed visual test (VT) and MT examinations at Mock-up 114M, Skin Plate C. The testing was performed at plate mp1019 to MA112, weld number MUSC-MA-112-4 and mp1021 to MA112, weld number MUSC-MA112-2 root pass weld, inside side, one-hundred percent VT and MT coverage. Following digital picture illustrates Caltrans QA, distinguishing inspection symbol, noting the MT testing has been performed on the root weld pass. See Caltrans Magnetic Particle Test Report, TL6028, generated on this date for additional information.

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Summary of Conversations:

As identified within the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Hasler, Mike	Quality Assurance Inspector
Reviewed By:	Cuellar, Robert	QA Reviewer
